CENTENNIAL WASH AT SPRR
FCD GAGE ID# 5103
USGS GAGE ID# 09517490

STATION DESCRIPTION

LOCATION – Located in western Maricopa County approximately five miles west of the town of Arlington. Gage is located on the downstream side of the Southern Pacific Railroad bridge. Latitude N 33°18' 35.6", Longitude W 112° 52' 58.4". Located in the SW1/4 NW1/4 SW1/4 S28 T1S R6W in the Gillespie 7.5-minute quadrangle.

DRAINAGE AREA – 1,817 mi^2.

ESTABLISHMENT – The District installed a gage at this location on February 9, 1990. The USGS also maintains a gage at this site.

GAGE – The FCD gage at this location is a pressure transducer type instrument. The gage is at 3.16 feet gage height, levels of March 29, 2000. The USGS gage site has a Handar 524 interfaced with a Handar 436A incremental shaft encoder and a Leupold Stevens A-35 graphic water stage recorder. All equipment is housed in a half shelter mounted on a 24-inch corrugated pipe stilling well. The stilling well is 14 ft high and is attached to the downstream side of a Union Pacific Railroad trestle bridge. There are five cleanout doors on the stilling well, all spaced about equidistant from one another. The bottom door is about one foot above the bottom of the well.

There are two staff gages at this location. Inside and outside staffs cover range of 0.0 ft to 10.0 ft gage datum. The inside staff is the rated gage. Both gages read in gage height.

There are no crest stage gages at this location.

ZERO GAGE HEIGHT - Zero gage height is equal to 839.44 feet NAVD 1988, or 837.12 feet NGVD 1929. Zero is staff gage datum.

HISTORY – No other gages are known to have operated at this site. The USGS has gaged at this location from the following dates. May 15, 1980 to September 30, 1985. Discontinued. Reestablished February 15, 1990, by U.S. Geological Survey. Record estimated October 1, 1989 through February 14, 1990.The gage datum was lowered 4.00 ft during the 1999 water year. Zero gage datum is now 837.12 ft above mean sea level (from Flood Control District of Maricopa County bench mark. PT 30 elevation 863.96 ft located 1-1/2 miles west of gage along railroad).

REFERENCE MARKS –

RM-CENTRR is an FCD brass cap located high on the right bank, just downstream from the railroad bridge. Elevation 19.08 feet gage height, or 858.515 feet NAVD 1988, levels of March 13, 2002. Northing: 841578.45 feet; Easting: 404739.78 feet.

RM-4 is the top of 3/4-inch bolt securing the bridge deck over 3rd pier from right bank, elevation 18.791 ft (levels of Oct. 4, 1999).

RM-5 is the high point of the nut on the bolt on in 3rd pier support from right bank, elevation 9.995 ft (levels Oct. 4, 1999).

RM-6 is the high point of the nut on the bolt on 9th pier support from right bank, elevation 5.920 ft (levels of Oct. 4, 1999).

RP1 is what was though to be USGS reference #4. It is located on the third pier from the right bank. It is a 3/4-inch bolt painted orange and marked on the pier with a large '4'. Elevation = 10.01 feet gage height, levels of March 29, 2000.

CHANNEL AND CONTROL – The channel approaches the railroad bridge from the northwest then bends south at confluence of Winters Wash, about 80 feet upstream of gage. The channel is straight downstream from gage for about 2,000 ft. The streambed is approximately 300 ft wide and composed of sand and clay with gravel deposits in places. Brush and small trees grow in the channel above the gage, but the channel is clear below the gage. In May of 1999 the channel from the gage to about a mile downstream was excavated, lowering the channel bottom 3 to 4 ft. The location of the low flow control, a gravel riffle downstream form the gage, varies for each flow event. The machine-graded channel banks become the control during medium and high flows.

RATING – The current rating is USGS rating #8, applied as of October 1, 2002. The USGS is responsible for developing and maintaining ratings for this location.

DISCHARGE MEASUREMENTS – Wade below 800 cfs. High-water measurements made by indirect methods. Wading done immediately below bridge to about 700 ft downstream of gage.

POINT OF ZERO FLOW – Approximately 2.48 feet gage height, levels of March 13, 2002. The PZF occurs about 375 feet downstream from the gage.

FLOODS – September 2, 1984, 15,600 cfs, gage height 11.34 ft.

REGULATION – Flow regulated by several small retention dams in upper end of basin. The upper portion of the basin is likely disconnected from the lower watershed except perhaps for extreme events. Centennial Levee concentrates flow south of I-10.

DIVERSIONS – None

ACCURACY – Poor. The control is very unstable since the channel was excavated in May of 1999. High flows are needed to fill-in the channel below and stabilize the control at the gage.

JUSTIFICATION – Monitor flows in Centennial Wash for unbridged crossing of Old US80 in Arlington.

UPDATE - July 14, 2011
D E Gardner